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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,526	05/12/2004	Weirong Chiang	OPNP0001USA	3525
27765 7590 12/20/2006 NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			EXAMINER LAMARRE, GUY J	
			ART UNIT 2133	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			12/20/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/709,526

Applicant(s)

CHIANG

Examiner

Guy J. Lamarre

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 5/12/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

- \* Pursuant to 35 USC 131, **Claims 1-15** are added and remain pending.

#### Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 1.1 **Claims 1-2, 8-9**, are rejected under 35 U.S.C. 102(b) as being anticipated by **Carll** (US Patent No. 4241398).

As per **Claims 1-2, 8-9**, **Carll** discloses equivalent frame format/structure comprising header, data stream and CRC wherein the CRC its are the last bits of the frame, e.g., 'digital signal information in the form of parallel digital words to be exchanged between the CPU and RPU's, each alternating as sending and receiving units, is converted into serial bits and organized into bit cells in the information field of one or more serial data frames of a message unit, each frame also including a header field and a trailer field, the header field having a single bit start flag as the least significant bit (LSB) of the frame and having a two bit identification (ID) flag, the trailer field having a single bit stop flag as the most significant bit (MSB) of the frame, each message unit including a cyclic redundancy checking (CRC) frame following the last data frame of the unit, each frame of the message unit being encoded serially into a bi-phase signal format which provides at least one signal level transition in each bit cell at a period equal to the bit cell time established by the sending unit and in a direction dependent on the logic level of the digital signal bit in the cell, to provide a signal manifestation of the sending unit digital signal information and time base, the bi-phase encoded frames of the message unit being presented asynchronously, as a serial data stream, through a transformer coupled half-duplex transmission

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line to the receiving unit which decodes each frame to restore the digital signal information and time base presented by the sending unit. In further accord with the present invention, the information field of the first frame of each message unit transmitted from or received by the CPU includes a first byte address identifying the particular RPU acting as the sending unit or receiving unit of the message, the first frame of each message unit transmitted by the CPU having a first frame CPU ID flag bit pattern different from the ID flag pattern of each successive frame in the message unit and different from the ID flag of each frame, including the first frame, of message units transmitted from each RPU, each RPU interrupting operation only in response to a message unit received with a first frame CPU ID flag pattern and first byte address identifying the RPU. In still further accord with the present invention, each message unit is checked by the receiving unit with a sixteen bit polynomial included in the information field of the CRC frame, each message unit received accurately by an RPU is acknowledged with a bi-phase encoded ACK signal presented to the CPU within a set time interval monitored by a watchdog timer at the CPU, which in the absence of the ACK signal in the time interval retransmits the original message unit, messages received inaccurately by the CPU are retransmitted by the RPU on CPU request

### **Claim Rejections - 35 USC ' 103**

**2.0** The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**2.1** **Claims 3-7, 10-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Carll and Hordeski** (Microcomputer LANs, 2<sup>nd</sup> Ed., page 240, 1991).

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As per Claims 3-7, 10-15, Carll substantially discloses the claimed approach of data frame format. Not specifically described in detail in Carll is the step whereby polynomial generation is  $x^{32}..+1$ .

However Hordeski , in an analogous art, discloses such techniques on page 240.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the procedure in the Carll by including therein data CRC via polynomial division on data frame/packet bits as taught by Hordeski , because such modification would provide the procedure disclosed in Carll with a technique whereby "CRC via polynomial division is standardized." {See Hordeski , page 240.}

### CONCLUSION

\* Any response to this action should be mailed to:

Commissioner of Patents and Trademarks, Washington, D.C. 20231

or faxed to: (571) 273-8300 for all formal communications.

Hand-delivered responses should be brought to Customer Services, 220 20<sup>th</sup> Street S., Crystal Plaza II, Lobby, Room 1B03, Arlington, VA 22202.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guy J. Lamarre, P.E., whose telephone number is (571) 272-3826. The examiner can normally be reached on Monday to Friday from 9:30 AM to 6:00 PM.

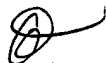
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert De Cady, can be reached at (571) 272-3819.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-3609.

Information regarding the status of an application may also be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Guy J. Lamarre, P.E

Primary Examiner

12/5/2006

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